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1.

Authors: Durgalakshmi S

Paper Title: Experimental Study on Behavior of Partial Replacement in Concrete Materials

Abstract: Infrastructure development across the world creates demand for construction material. The problem arising from continuous technological industrial development is the disposal of waste material, the raw material of concrete consists of cement, sand and crushed aggregate. Partial replacement or full replacement of this raw material by waste products may decrease the cost reduced the energy consumption and also reduce the environmental pollution. The main objective of the studies is to encourage the use of waste product as construction material in cost effective manner. A referral M-25 concrete mix was used in the present investigation. Totally 92 cubes have been casted, and tested their compressive strength. The physical and mechanical properties of the material used in concrete were investigated. In this study the replacement has been carried out for the cement by fly ash, sand by stone dust and coarse aggregate by coconut shell. An attempt was made to partially replace the cement by fly ash (10%, 20%, 30%), then fine aggregate by stone dust (10%, 20%, 30%), and coarse aggregate by coconut shell (10%, 20%, 30%). for each replacement. 9 referral concrete cubes were casted for measuring 7, 14 and 28 days compressive strength. The result of replaced concrete is compared with the referral concrete.

Keywords: Coarse Aggregate, Cement, Coconut Shell, Compressive Strength, Fine Aggregate, Fly ash, Stone Dust.

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2.

Authors: S.N. Surip, W.N.R. Wan Jaafar, M.A. Tarawneh, N.N Azmi

Paper Title: Mechanical Properties of Polylactic Acid (PLA) Green Composites Reinforced by Kenaf Bast and Core Fibers

Abstract: Polylactic acid (PLA) green composites were fabricated using melt compounding and compression moulding. Kenaf bast and core fibres had undergone chemi-mechanical treatment before use. PLA and kenaf fibres were mixed at different fibre loadings (2%, 4% and 6%) and extruded with three different rotation speeds (60, 70 and 80 rpm). The mechanical properties of kenaf bast composites (KBC) and kenaf core composites (KCC) were studied by performing flexural and impact testing. KBC and KCC treated with 1.0M acid treatment at 60 rpm speed had higher flexural and impact strength. KBC at 6% fibre loading had a higher flexural modulus, which was caused by the stiffness of the fibre incorporated in the PLA. However, KBC with 4% fibre loading has higher flexural strength than 6% fibre loading. In contrast, KCC at 2% fibre loading had the highest flexural modulus and strength. Meanwhile, for impact properties, 4% fibre loading had the optimum strength for both KBC and KCC.

Keywords: Kenaf bast fibre, kenaf core fibre, polylactic acid, green composites.

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3.

Authors:	**J.C. Ochi, C.O. Ohaneme, A.C.O. Azubog**
Paper Title:	**Development of an Intelligent Fuzzy-Based Algorithm for Data Congestion Management Scheme in Wireless LAN**

Abstract: Network congestion control remains a critical issue and a high priority, especially given the growing size, demand, and speed (bandwidth) of the increasing wireless services. Congestion control is the problem of managing network traffic or a network state where the total demand for resources such as bandwidth among the competing users exceeds the available capacity. This paper presents a fuzzy logic approach to congestion mitigation in TCP oriented network using University of Nigeria Nsukka (UNN) situated at the South-Eastern part of Nigeria as a case study. Using a deductive study mechanism, an intelligent fuzzy-based algorithm for the congestion management is developed while showing a validation analysis plot of the proposed scheme in relation to other TCP variants such as TCP Tahoe, TCP Reno, TCP-New Reno, TCP Vegas and TCP selective acknowledgments (SACKs), i.e.TCP-

TRONVS. From the implementation of the proposed scheme, it was observed that a significant improvement in the Quality of service (QoS) metrics (such as latency, throughput, buffer utilization, and packet Loss Ratio) for users is practically feasible.

Keywords: Network congestion, latency, packet loss, buffer utilization, throughput.

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4.

Authors:	**A. G. Mostafa, M. A. Sayed, M.Y. Hassaan, K. A. Aly, Y.B. Saddeek, A. El- Taher**
Paper Title:	**Physical Characterization of Glasses based on Blast Furnace Slag (BFS)**

Abstract: Glasses based on Blast Furnace Slag (BFS) were prepared by conventional melt-quenching method. The ultrasonic velocities data of these glasses have been used to determine the elastic modulus. Densities of glass samples were measured by Archimedes's principle using Toluene as an immersion liquid. The composition dependence of the elastic properties of these glasses was discussed. Furthermore, based on the measured transmittance and absorption spectra in the wavelength range 350-2000 nm, the optical constants (optical band gap (Eg) and index of refraction (n)) have been determined. The addition of BFS produced significant changes such as an increase in the glass density, refractive index, ultrasonic velocities and elastic moduli. On the other side, the BFS additions shifts the absorption edge toward long wavelength side i.e., leading to a decrease in the Eg values. The obtained results were well discussed in terms of the electronic polarizability and the change in the glass structure with the addition of BFS content.

Keywords: BFS, prepared glasses, XRF for raw materials, density and molar volume, Ultrasonic measurements.

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5.

Authors: **Samkeet Shah, Dakshil Shah, Lakshmi Kurup**

Paper Title: **Survey on Detection of Malicious Web Pages and URLs Using Machine Learning**

Abstract: Web based security threat is rising every day. Web pages serve as one of the primary ways for interaction with and for the users. However, certain web application or websites are directed to mislead the user and try to gain access to the user's system in order to steal sensitive personal information. The old legacy based approaches on malicious web pages or URLs detection consist of using blacklist that check the URL against an existing database of flagged and suspicious links. The World Wide Web has progressed significantly, with the active use of JavaScript, ActiveX, Flash Player and related technologies. The heavy use of these technologies has improved the user experience and available services on web pages. Attackers tend to find security loopholes into these technologies and use them to their advantage. This method however fails to detect ever evolving attack methods. Thus there is a need to use methods that can adopt to and evolve simultaneously with the advancing threats. Hence, in this paper we have reviewed various types of web based attacks and machine learning techniques to detect malicious web pages and URLs.

Keywords: Machine Learning, Malicious Webpages, Web Security

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6.

Authors: **Shyamily Kuriakose, Rosna P. Haroon**

Paper Title: **Predicting The Efficiency of Difficult Queries over Databases using SRC**

Abstract: Keyword queries on databases provide easy access to data, but often suffer from low ranking quality, i.e., low precision and/or recall, as shown in recent benchmarks. It would be useful to identify queries that are likely to have low ranking quality to improve the user satisfaction. For instance, the system may suggest to the user alternative queries for such hard queries. In this paper, we analyze the characteristics of hard queries and propose a novel framework to measure the degree of difficulty for a keyword query over a database, considering both the structure and the content of the database and the query results. We evaluate our query difficulty prediction model against two effectiveness benchmarks for popular keyword search ranking methods. Our empirical results show that our model predicts the hard queries with high accuracy. The proposed method use two level corruption module

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compare to structured robustness algorithm

Keywords: keyword query, query effectiveness , robustness.

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7.

Authors: **Chinnu C. George, Abdul Ali**

Paper Title: **Information Filtering Model Based on Topic Pattern for Document Modeling**

Abstract: In the field of machine learning and text mining topic modelling is widely used. Topic modelling generates models to discover the hidden topics in a collection of documents and each of these topics are represented by the distribution- of words. Many term-based and pattern-based approaches are there in the field of information filtering. Patterns are more discriminative than the single words. In many pattern-based methods only the presence or absence of the patterns in the documents are considered. Even if the pattern occurs multiple times in the documents to be filtered equal importance is considered. Another problem with the existing pattern-based methods is that the semantics of the terms in the patterns are not considered. Another limitation is that the distribution of the patterns is not given any importance. To deal with the above limitations and problems this paper includes a new ranking method that considers the frequency of the patterns, pattern distribution and semantic based pattern representation to estimate the relevance of the documents based on the user information needs. This helps to filter out the irrelevant documents effectively. Extensive experiments are conducted using the TREC data collection Reuters Corpus Volume 1 to evaluate the effectiveness of the proposed method .The result shows that the proposed model outperforms the pattern based topic for document modeling in information filtering.

Keywords: Topic modelling, information filtering, user interest modeling, semantic based relevance ranking.

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8.

Authors: **Mitty Abraham, Safiya K.M**

Paper Title: **Rule-Based Entity Resolution using Distinct Tree**

Abstract: Entity resolution identifies object referring to the same entity .Entity resolution is performed by generating rules from training set and applies them on records. Traditional ER considered each attribute value as the rule in a random fashion and performs conjunction with other rules according to length threshold .This method is very complex and tedious. Our proposed method generated rules from a distinct tree using RL method, which consider the length criteria and RNN methods which does not. Distinct tree is formed by arranging attribute and its value of records in the training set in a particular fashion .These generated rules are applied to the dataset for entity identification .Our experimental results show that the proposed method is more accurate.

Keywords: Entity resolution, Length criteria

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Authors: **Adrian Titi Pascu, Daniel Băcescu**

Paper Title: **Computation Specifics for a Family of Monochromators with a Plane Diffraction Grid**

Abstract: The use of a family of monochromators offers the possibility of obtaining high performance measurements for multiple parameters. The Czerny – Turner version is the one studied in this paper. The choice is justified by the fact that this schematic allows the obtaining of very low levels of dispersed light. In addition, the technological execution of a mirror of the type employed by the Ebert schematic is difficult to construct and expensive. The spectral interval proposed for the study is 280 nm – 750 nm

Keywords: Czerny – Turner monochromator, diffraction grid, mirror, spectrometer

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